OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

TITLE V PERMIT REVIEW REPORT

Northwest Region
700 NE Multnomah St., Suite 600
Portland, OR 97232
503-229-5263

Source Information:

SIC	3221
NAICS	327213

Source Categories (Part & code)	--

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	No
Emission credits	No
Compliance schedule	No
COMS	Yes

COMS	Yes
Source test [date(s)]	As specified in the Permit
Ambient monitoring	No

Reporting Requirements:

Annual report (due date)	2/15
Emission fee report (due date)	2/15
SACC (due date)	2/15 & 7/31

Quarterly COM report	Yes
Excess emissions report	As specified in the Permit
Other Reports	No

Air Programs

NSPS (list subparts)	CC
NESHAP (list subparts)	6S
CAM	No
Regional Haze (RH)	No
Synthetic Minor (SM)	No
Part 68 Risk Management	No
CFC	No
RACT	No

TACT	No
Title V	Yes
ACDP (SIP)	No
Major HAP source	No
Federal major source	Yes
NSR	No
PSD	No
Acid Rain	No

TABLE OF CONTENTS

LIST OF ABBREVIATIONS USED IN THE REVIEW REPORT

AQMA	Air Quality Management Area
ASTM	American Society of Testing and Materials
CAM	compliance assurance monitoring
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
CH_4	methane (greenhouse gas)
CMS	continuous monitoring system
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
COMS	continuous opacity monitoring system
DEQ	Oregon Department of Environmental Quality
dscf	dry standard cubic feet
EF	emission factor
EPA	United State Environmental Protection Agency
EU	emissions unit
FCAA	Federal Clean Air Act
GHG	greenhouse gas
gr/dscf	grains per dry standard cubic feet
HAP	hazardous air pollutant
ID	identification code
I&M	inspection and maintenance
LPG	liquefied petroleum gas
MB	material balance
Mlb	1000 pounds
MM	million
N2O	nitrous oxide (greenhouse gas)
NA	not applicable
NESHAP	National Emission Standard for Hazardous Air Pollutants
NO_x	oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
O_2	oxygen
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
O&M	operation and maintenance
Pb	lead
PCD	pollution control device
PEMS	predictive emissions monitoring system
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PSEL	Plant Site Emission Limit
SER	Significant emissions rate
SO_2	sulfur dioxide
ST	source test
VE	visible emissions
VMT	vehicle mile traveled
VOC	volatile organic compound

INTRODUCTION

1. PERMIT ACTION SUMMARY: The proposed permit is a renewal of existing Title V Permit 26-1876 that is currently in effect. Owens-Brockway has not made any major modifications or process changes to their facility during the current permit term. The proposed permit renewal incorporates additional regulatory requirements (e.g., GHG PSEL) and updates emission factors to better assess the facility emissions.

   a. The proposed permit incorporates National Emissions Standard for Hazardous Air Pollutants (NESHAP), subpart SSSSSS (6S), and associated testing, monitoring, recordkeeping requirements.

   b. Particulate Matter (PM) that is less than 2.5 microns in diameter is now categorized as $PM_{2.5}$. The proposed permit established the $PM_{2.5}$ netting basis of 91 tons per year, which represents approximately 92% of the PM_{10} Netting Basis of 95 tons/yr.

   c. The proposed permit incorporates the GHG PSEL of 100,521 tons CO_2e per year. The reporting requirements promulgated in Division 215 of Oregon Administrative Rules are also new requirements incorporated in the proposed permit.

   d. In accordance with OAR 340-222-0035(2)(a), the PM_{10}, SO_2, and NO_X emission factors for glass melting furnaces A and D have been updated based on the average of previous source test results and other available EPA data. The PSELs for PM_{10}, SO_2, and NO_X PSELs have been reduced accordingly.

   e. The proposed permit incorporates by reference the requirements of Corrective Action Plan (CAP) from the Mutual Agreement and Final Order (AQ/V-NWR-11-092) that Owens and DEQ entered into on May 11, 2012, as referenced in enforcement history summarized in item 33 of this review report.

   f. Previous permit requirements that limited excessive visible emissions (i.e., $\geq$20%) from non-fuel burning equipment (e.g., baghouse) to no greater than 30 seconds in any one hour period are no longer applicable. Visible emissions standards for all fuel burning and non-fuel burning equipment are now measured based on the EPA method.

   g. Previous permit requirement that limited the SO_2 emissions to 1,000 ppm has been omitted from the permit. Oregon Administrative Rule 340-208-0630 that limited the SO_2 emissions to 1,000 ppm was repealed on 11/08/2007 and it is now defunct. Furthermore the Owens-Brockway facility no longer manufactures medical bottles that utilized the SO_2 treatment processes.

2. In accordance with OAR 340-218-0120(1)(f), this review report is intended to provide the legal and factual basis for the draft permit conditions. In most cases, the legal basis for a permit condition is included in the permit by citing the applicable regulation. The factual basis for the requirement may be the same as the legal basis. However, when the regulation is not specific and only provides general requirements, this review report intends to provide a more thorough explanation of the factual basis for the draft permit conditions.

3. The off-permit changes 502(b)(10) changes, administrative amendments, and/or minor modifications that occurred during the permit term include the following:

DATE	UPGRADES/CHANGES MADE
May 2012	Furnace-A: Installed limit switches to control the "combustion air butterfly valve" to control and direct the combustion air flow.
July 2013	Installed control units on glass melting furnaces to automatically shut off the gas supply into the furnace when the combustion air flow drops below 100,000 cubic feet per hour or when COMS detects elevated opacity (≥18%) for more than 90 seconds.
April 2014	Replaced D-Furnace exhaust fan motor and fan belts. All exhaust fan belts are inspected on a monthly basis and adjusted and/or replaced as needed. Fan belts are replaced at least every two years.
2013	Owens-Brockway has eliminated in-house cullet processing and out-sourced the cullet crushing operations to its subsidiary "e-Cullet."
2016	Re-bricked Furnace-D and replaced the exhaust stack to same height; And dismantled the non-functioning furnace B and C stacks.
August – September 2016	Performed numerous maintenance projects to reduce fugitive dust emissions from raw materials handling processes; replaced broken windows in the materials conveyor system gangway and conveyors, provide covers during raw material unloading, etc.
On-going	Monitors electric boost rate (kwh) of furnace, the amount of caustic used as wetting agent, and batch pattern.
On-going	In accordance with OAR 340-218-0150, there were several changes to the responsible official identified for the permitted activities. Mr. Dwayne Wendler is the plant manager and the current designated responsible official.
On-going	Rental compressors: Owens-Brockway may operate rental compressors in the event the main electric- compressor is down for maintenance and/or repair.

4. The changes made between the previous permit and the proposed permit include the following:

   a. New Conditions #20 – 22: As noted in item 1.a, the proposed permit incorporates NESHAP subpart 6S requirements.
   b. New Condition #11: Risk Management Plan is required if source becomes subject to the accidental release prevention specified in 40 CFR Part 68.
   c. New Condition #19: DEQ Corrective Action Plan required.
   d. The PSEL section incorporates $PM_{2.5}$ and GHG PSEL.
   e. PM_{10}, SO_2, NO_x PSEL are reduced in the proposed permit. The PM_{10}, SO_2, and NO_x emission factors for glass melting furnaces are updated based on previous source test results.
   f. OAR 340-208-0600 governing the opacity limit allowing 30-second exceedance in an hour has been replaced with the opacity standards of OAR 340-208-0110.
   g. All previous permit conditions that applied to furnaces B and C are purged from the permit. Old furnaces B and C are no longer functional and not operable.
   h. OAR 340-208-0630 limiting SO_2 emissions to 1,000 ppm is repealed. Owens-Brockway no longer manufactures medical glass vial that required SO_2 gas treatment.
   i. General Conditions Section has been updated and reorganized.

PERMITTEE IDENTIFICATION

5. Owens-Illinois, Inc., through its subsidiaries, manufactures and sells glass containers to food and beverage manufacturers all over the world. Glass containers are offered in a range of sizes, shapes, and colors. The company sells its products directly to customers or through distributors. Owens-Illinois, Inc. was founded in 1903 and is headquartered in Perrysburg, Ohio. Owens-Brockway Glass Container Inc. in Portland, Oregon is one of the glass container manufacturing plants that O-I operates, and it is the one regulated under Title 5 permit 26-1876. The Owens-Brockway plant occupies approximately 78 acres of property located at 9710 NE Glass Plant Road, adjacent to Interstate-205.

FACILITY/PROCESS DESCRIPTION

6. The Owens-Brockway Glass Plant is capable of producing a variety of glass bottles and jars. At present time the beer bottles are the core products manufactured and wine bottles coming in at distant second.

Batch House – Raw Materials Handling

Railcars and trucks deliver the raw materials (e.g., sand, salt cake, limestone, soda ash) to the plant. Raw materials are gravity fed into an unloading pit and the elevators transport the materials to designated storage silos in the batch house. Individual components are weighed on scale located under each silo and conveyed to the mixer where cullet (i.e., recycled glass) is added last to minimize wear and tear of the mixer. The batch baghouse abates dusts generated during the raw materials transport and mixing operations.

Cullet Process and Storage

Owens currently purchases sorted cullet from another company (eCullet Inc.). Owens no longer accept recycled bottles and process them in-house to make cullet. The cullet Owens receive is already sorted according to the color and type. Owens also uses cullet generated in house as feed for its glass melting furnaces.

Material Blending/Mixing

The raw materials and cullet are placed into a surge bin, and liquid caustic (i.e., wetting agent) is added to the bin as needed along with small quantities of color additives. The final mixture/batch is loaded into the batch charger that feeds the glass-melting furnace.

Glass Melting Furnaces

The Owens-Brockway facility operates two glass-melting furnaces “A” and “D”, which are both continuous regenerative furnaces capable of producing about 98,550 and 82,125 tons/yr of glass respectively. The shells of furnaces “B” and “C” physically occupy the space but they are not functional; furnace-B was shut down after 1978 and furnace-C was last operated in 1990. Furnace-A has dual side-ports with south and north stacks where the combustion gas exhaust through, alternating every 30 minutes. Furnace-D is an end-port furnace with a single stack.

Typically the end-port furnace consumes less energy (i.e., less NG fuel usage leading to lower emissions) than a comparable cross-fired/side-port furnace. However, the side-port furnaces can be built for larger melting capacity and more efficient than several smaller end-port furnaces. Continuous Opacity Monitors (COMs) installed on each of the three furnace exhaust stacks measure visible emissions from furnaces A and D.

The batch-mixture is charged into the furnace at the same rate as molten-glass is pulled out to achieve steady-state operation. As the pre-mixed batch enters the melting furnace through the feeder, it initially floats on the top of molten glass already in the furnace. Raw materials melt and pass through the melter and eventually flow through a "throat" at the bottom of furnace that leads into the refiner. The refiner section of the furnace functions as a holding basin where the glass is allowed to cool to uniform temperature before entering the forehearth – constructed as a long ceramic "bathtub" where molten glass is typically cooled from 2,350 degrees Fahrenheit (°F) at the entrance to 2,150 °F at the exit. Viscosity (measured in "poise") of molten glass varies inversely with temperature. Molten glass in the forehearth at 2,200 °F has a viscosity of about 1,000 poise. For comparison, water at room temperature has about 1/100 poise and honey has about 100 poise.

Bottle Forming

Molten glass[-1-] flows gravitationally from the refiner through the forehearth, where it is cooled to a uniform temperature and desirable viscosity prior to reaching the feeder. The hot glass then flows through the orifice and the shape and size of glass "gob" is carefully controlled. A 7-oz gob is typical for a 12-oz beer bottle. After the gob has been sheared from the feeder it falls through a series of chutes where it is delivered and blown into the blank mold on the Individual Section (I.S.) machine.

Mold Preparation is an inherent part of the bottle-forming process. The mold preparation involves cleaning, lubricating, curing and heating. The operator periodically swabs molds with a graphite/oil solution as needed. A defective mold is purged from the production line for maintenance and repair. A purged-mold is cleaned in the burnout ovens and grit blasters, and then solid film lubricant (1-gallon lasts about a week) is applied in the mold coating spray booth and cured in the mold curing ovens. The repaired mold's temperature is elevated in the mold heat ovens and quick fire ovens prior to re-entering the bottle forming production line (i.e., I.S. machine).

Surface Treatment: Molded glass bottles are further treated in the hot end surface treatment (HEST) process that applies mono-butyl-tin trichloride (MBTT). The HEST process deposits tin (Sn) compounds/radicals into the glass surface. The exhaust from HEST process vents through an abatement device (i.e., HEST-A baghouse). Ammonia (NH_3) is added to the HEST hood exhaust to combine with excess tin (Sn) to form solid particulate matter (PM) that baghouse can collect and filter out. Following the HEST process the bottles are annealed[-2-] in the lehr, which is a long oven that controls the amount of heat supplied to moving bottles.

[-1-] Traditionally glass is defined as super cooled liquid because it does not behave like other solid materials (e.g., metal, ceramic) upon cooling from the molten state. Glass does not undergo structural changes. Glass can be described as being a very viscous liquid. The classic verification of the super-cooled-liquid theory is that if a windowpane of very old house is measured, the bottom will be thicker than the top – indicating very slow flow has occurred over a long period of time.

[-2-] As glass cools it shrinks and uneven cooling causes weak glass due to stress. An even slow cooling process is achieved by annealing over a long period of time depending on the glass thickness.

Inspection: Between the forming machine and the lehr, hot-faulty bottles are purged from the production line and fall into hoppers containing water placed below the production line in the basement. After the lehr, glass containers are inspected and defective bottles are kicked to a belt conveyor that also goes to the basement. The oil/water separator treats and recirculates the catch water used in the dunk-buckets. In addition to rejecting faulty bottles, the inspection process gathers statistical information to trace the faulty containers being produced to the defective-mold. This is accomplished by reading the mold number on the container, which was encoded as a numeral or a binary code of dots on the container by the mold that made it. Operators also perform a range of manual inspections on samples of containers, usually visual and dimensional checks. The I.S. machine allows operator to take one or more sections out of production line for repairs without shutting down the entire production line.

Warehouse Operations

Finally the finished bottles are coded and packaged for shipping. A bottle coder (ink-jet printer) prints tiny identification numbers on the glass containers as they rapidly move through the conveyor. Methyl ethyl ketone (MEK) is used as cleanup solvent and as the ink (carrier) solvent. MEK emissions are grouped under aggregate insignificant activities. Lastly the finished glass containers are packed into cartons or bulk-loaded for shipping.

Boiler

Owens Brockway operates a boiler (10.5×10^6 Btu/hr) and small space heaters strictly for space heating. There are also hot water heaters to heat water for showers and restrooms. Space heaters and water heaters are categorically insignificant activities.

Miscellaneous Activities

Maintenance activities include four "Safety-Kleen" parts cleaners, welding operations, and minor machining and painting activities. The plant has one vertical fixed roof storage tank for storing fuel oil and several horizontal tanks storing propane. There are also storage tanks for used oil, machine lube oil, and ammonia. The Quality and Standards (Q/S) lab uses bench scale laboratory equipment for chemical and physical analysis.

EMISSIONS UNIT (EU) AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION

7. Emissions units identified in this permit are grouped primarily with respect to the common applicable requirements and the associated common monitoring protocols as follow:

EU ID		EU Description	SCC	Year Installed	PCD Description	PCD ID	Year Inst.
EU1	RMU1-3	Batch house raw material handling equipment/activities; conveyor, elevator, silos, etc.	30510405 30510499	1956	Raw material baghouse Batch house baghouse	RMBH-1 RMBH-2 RMBH-3	1978 1956 --
EU2	CC5	Cullet crusher	30501413	1956	None	--	--

EU ID		EU Description	SCC	Year Installed	PCD Description	PCD ID	Year Inst.
EU3	RMB1-3	Conveyor, weigh bins, surge bin, mixers, chargers, etc.	30510199 30510299	1956	Batch house baghouse	RMBH-2	1956
EU4	**GM1** **GM4**	Melting Furnace A Melting Furnace D	30501401	1956 1970	None	--	--
EU5	HEST1-4	hot-end surface treatment	30501406	pre-1975	HEST Abatement (NH_3 injected baghouse)	HEST-A	1982
	MS1-4	Mold swabbers	--	1956		--	--
EU6	R1, R4 FH 1-4 LH1-4 MO1-3 MH1-4 QF1-2	2 Refiners 4 Forehearth 4 Lehrs 3 Mold burnout/ cure oven 4 Mold heat oven 2 Quick fire oven	30590003	1956 (some replaced with newer equip. recently)	none	--	--
EU7	B1	Boiler 10.5 MMBtu/hr	10100602 10100501	1956	none	--	--
EU 10	Machine repair dust collector. Mold bench dust collector		--		Dust Collectors	MRD-1 MBD-1	1956 1956

Emissions Unit 1 (EU1) includes all raw materials unloading and transport equipment and associated activities. A small baghouse RMBH-1 (with 9-bags) located inside the truck-unloading shed operates when truck unloads raw materials. A "batch house" baghouse RMBH-2 (with 240-bags) is the main dust collector that operates continuously to abate particulate-dust generated from raw materials unloading and transport operations.

Emissions Unit 2 (EU2) includes one cullet crusher and the conveyor belt used to transport cullet from the storage pile to the mixing bin. Four of the former cullet crushers (CC1 through CC4) and all four of the former post-consumer cullet processors (CP1 through CP4) have been removed from the site, because in 2013 Owens-Brockway formed “Glass to Glass” joint venture with eCullet Inc. and began outsourcing glass-crushing and cullet-sorting operations.

Emissions Unit 3 (EU3) includes raw-material blenders (RMB1 through RMB3) and other auxiliary equipment such as surge bins, weigh bins, mixers and chargers. Particulate matter emissions from silos, weigh bin, mixers, and chargers are all collected and routed to a "batch" baghouse RMBH-2 (240 bags) for abatement.

Emissions Unit 4 (EU4) consists of two glass melting furnaces A (GM1) and D (GM4). The Portland facility used to operate four furnaces but only two are operated now. Furnace-B (GM2) was shut down permanently in 1979, and furnace-C (GM3) operated until 1990 before being taken out of service. Two active melting furnaces A and D burn natural gas as their primary fuel but they are capable of burning LPG (e.g., propane). Both furnaces also utilize electric boost for an additional energy and to apply this energy to the lower regions of the glass-bath that are difficult to heat by the NG-fired heating system. Furnace-A has two side-ports with “south” and “north” stacks through which the combustion by-product gases are alternatingly exhausted. Furnace D is an end-port furnace with a single stack**.**

Emission Factors for glass melting furnaces are updated in this permit based on multiple source test data and other available information that best correspond to Owens' past and current operations:

Baseline EFs for Pre-renovation Glass Melting Furnace-A		
PM EF	6.3E-01 lbs/ton	Average of all PM and SO_2 source tests performed (from 1983 to 2007) on furnaces A and D were used for pre-renovation furnace A.
SO_2 EF	2.1E+00 lbs/ton	
NOx EF	6.2E+00 lbs/ton	No source test data available for pre-renovation furnace A. EPA's AP42 EF for NOx was determined to be the best data available for pre-renovation furnace A. The furnace size and type affects NOx emissions unlike PM and SO2 emissions that are more dependent on type of materials used.
Baseline EFs for Glass Melting Furnace-B Furnace-B was shut down permanently in December 1978		
PM EF	6.3E-01 lbs/ton	Averages of all PM and SO2 source tests performed on furnaces A and D (from 1983 to 2007) were deemed the best available data.
SO_2 EF	2.1E+00 lbs/ton	
NOx EF	6.2E+00 lbs/ton	No NOx source test data available for Furnace-B. EPA's AP42 EF for NOx was determined to be the best available data.
Baseline EFs for Glass Melting Furnace-C Furnace-C was shut down permanently in April 1990		
PM EF	6.8E-01 lbs/ton	1984 source test data for Furnace C used.
SO_2 EF	2.1E+00 lbs/ton	Average of all SO2 source tests performed on furnaces A and D since 1983. SO2 emissions depend on decomposition of sulfates in the batch materials and oxidation of sulfur; and the batch material chemistry remains essentially the same for all furnaces.
NOx EF	5.2E+00 lbs/ton	1984 Source test data for Furnace C used.
Baseline EFs for Electric Glass Melting Furnace-D		
PM EF	2.4E-01 lbs/ton	1983 source test performed on electric furnace-D
SO_2 EF	2.0E-01 lbs/ton	1983 source test performed on electric furnace-D
NOx EF	0 (not detected)	1983 source test performed on electric furnace-D
Current EFs for Glass Melting Furnace-A The modification to Furnace-A completed on 4/07/1983; enlarged the melt area from 566 to 786 ft2 and increased the number of firing ports from 8 to 10		
PM EF	7.0E-01 lbs/ton	Average of all PM source tests performed on Furnace-A since 1983.
SO_2 EF	2.1E+00 lbs/ton	Average of all SO2 source tests performed on furnaces A and D since 1983. SO2 emissions depend on decomposition of sulfates in the batch materials and oxidation of sulfur; and the batch material chemistry remains essentially the same for all furnaces.
NOx EF	4.7E+00 lbs/ton	Average of all NOx source tests performed on Furnace-A since 1983.

Current EFs for Gas-fired Glass Melting Furnace-D In 1986 furnace-D was converted from electric to gas-fired, end-port, regenerative furnace.		
PM EF	6.0E-01 lbs/ton	Average of all PM source tests performed on Furnace-D since 1986.
SO_2 EF	2.1E+00 lbs/ton	Average of all SO2 source tests performed on furnaces A and D since 1983. SO2 emissions depend on decomposition of sulfates in the batch materials and oxidation of sulfur; and the batch material chemistry remains essentially the same for all furnaces.
NOx EF	3.7E+00 lbs/ton	Average of all NOx source tests performed on Furnace-D since 1986.

Emissions Unit 5 (EU5) consists of four hot end surface treatment equipment (HEST1 to HEST4) and the mold swabbing operations. The operators manually apply graphite/oil mixture to molds with hand-held swab sticks on as-needed basis.

EU5 Devices	Material Type	Material usage	Year Installed
HEST1-4	$SnCl_4$	70,000 lbs/yr	Pre-1975
MS1-4	graphite/oil mix.	60,000 lbs/yr	1956

Emissions Unit 6 (EU6) includes natural gas burning equipment; furnace refiners (R1 to R4), forehearth (FH1 to FH4), Lehrs (LH1 to LH3), Mold burnout and curing oven (MO-1), Mold heat oven (MH-1), Quick fire oven (QF-1), and space heaters[-3-]. The fourth lehr (LH4) is an electrical unit.

EU6 Devices:	R1-4	FH1-4	LH1-4	MO1-3	MH1-4	QF1-2
Capacity (10^6 Btu/hr):	2.5	5.0	2.5	2.0	2.0	2.0
Year Installed:	1956	1956	1956	1956	1956	1956

Emissions Unit 7 (EU7) is a "Kewanee, Type-C" boiler with the rated capacity of 10.5 x 10^6 Btu/hr. The Kewanee boiler is primarily fueled by natural gas but it is capable of burning fuel oil as a back-up fuel. The boiler is used for space heating and hot water. The boiler was installed in 1956 and no modification has been made to it since.

Emissions Unit 10 (EU10) consists of machine repair and mold grinding operations that are done sporadically on as-needed basis. Machine repair dust collector (MRD-1) and a mold bench dust collector (MBD-1) are therefore operated infrequently.

Pollution Control Devices (PCD) at the Owens plant include the following baghouses. The HEST-A baghouse control tin-compounds released from the hot end surface treatment process.

PCD ID	Baghouse Type (EU controlled)	Number of bags	Design flow (acfm)	Rated efficiency	Year Installed	Hours Operated
RMBH-1	Baghouse (EU1)	9	180	99%	1978	~ 6-8 hrs/day
RMBH-2	Baghouse (EU1&3)	240	9,000	99%	1956	24 hrs/day

[-3-] Space heaters with the capacity less than 2 MMbtu/hr are grouped under categorically insignificant activities.

RMBH-3	Baghouse (EU1)	9	135	99%	--	~ 6-8 hrs/day
HEST-A	Baghouse (EU5)	144	3,500	99%	1982	24 hrs/day
		NH_3 inj.	30 - 35/unit			
MRD-1	Baghouse (EU10)	9	1,400	99%	1956	(not in use)
MBD-1	Baghouse (EU10)	18	2,100	99%	1956	~ 6-8 hrs/day

8. The permittee has identified the following categorically insignificant activities:

- Constituents of a chemical mixture present at less than 1% by weight of any chemical or compound regulated under Divisions 200 through 268 excluding divisions 248 and 262 of this chapter, or less than 0.1% by weight of any carcinogen listed in the US Department of Health and Human Service's Annual Report on Carcinogens when usage of the chemical mixture is less than 100,000 pounds/year
- Evaporative and tailpipe emissions from on-site motor vehicle operation
- Distillate oil, kerosene, gasoline, natural gas or propane burning equipment, provided the aggregate expected actual emissions of the equipment identified as categorically insignificant do not exceed the de minimis level for any regulated pollutant, based on the expected maximum annual operation of the equipment. If a source's expected emissions from all such equipment exceed the de minimis levels, then the source may identify a subgroup of such equipment as categorically insignificant with the remainder not categorically insignificant. The following equipment may never be included as categorically insignificant:
    - Any individual distillate oil, kerosene or gasoline burning equipment with a rating greater than 0.4 million Btu/hour;
    - Any individual natural gas or propane burning equipment with a rating greater than 2.0 million Btu/hour.
- Distillate oil, kerosene, gasoline, natural gas or propane burning equipment brought on site for six months or less for maintenance, construction or similar purposes, such as but not limited to generators, pumps, hot water pressure washers and space heaters, provided that any such equipment that performs the same function as the permanent equipment, must be operated within the source's existing PSEL
- Office activities
- Food service activities
- Janitorial activities
- Personal care activities
- Grounds keeping activities including, but not limited to building painting and road and parking lot maintenance
- On-site recreation facilities
- Instrument calibration
- Maintenance and repair shop
- Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment
- Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems
- Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including associated vacuum producing devices but excluding research and development facilities
- Temporary construction activities

- Warehouse activities
- Accidental fires
- Air vents from air compressors
- Demineralized water tanks
- Pre-treatment of municipal water, including use of deionized water purification systems
- Electrical charging stations
- Fire Brigade training
- Instrument air dryers and distribution
- Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking
- Electric motors
- Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids
- On-site storage tanks not subject to any New Source Performance Standards (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles
- Natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment
- Pressurized tanks containing gaseous compounds
- Emissions from wastewater discharges to publicly owned treatment works (POTW) provided the source is authorized to discharge to the POTW, not including on-site wastewater treatment and/or holding facilities
- Fire suppression and training
- Paved roads and paved parking lots within an urban growth boundary
- Health, safety, and emergency response activities
- Emergency generators and pumps used only during loss of primary equipment or utility service due to circumstances beyond the reasonable control of the owner or operator, or to address a power emergency, provided that the aggregate horsepower rating of all stationary emergency generator and pump engines is not more than 3,000 horsepower. If the aggregate horsepower rating of all stationary emergency generator and pump engines is more than 3,000 horsepower, then no emergency generators and pumps at the source may be considered categorically insignificant
- Non-contact steam vents and leaks and safety and relief valves for boiler steam distribution systems
- Industrial cooling towers that do not use chromium-based water treatment chemicals
- Uncontrolled oil/water separators in effluent treatment systems, excluding systems with a throughput of more than 400,000 gallons per year of effluent located at the following sources:
    - Petroleum refineries;
    - Sources that perform petroleum refining and re-refining of lubricating oils and greases including asphalt production by distillation and the reprocessing of oils and/or solvents for fuels; or
    - Bulk gasoline plants, bulk gasoline terminals, and pipeline facilities
- Combustion source flame safety purging on startup

EMISSION LIMITS AND STANDARDS

9. Facility-wide applicable requirements

a. Source Emission Reduction Plan (SERP) required by OAR 340-206-0050 is applicable to Owens-Brockway since it operates inside the Portland AQMA. Portland is a maintenance area for ozone and carbon monoxide, as designated in OAR 340-204-0040. Owens-Brockway emits over 100 tons of NO_x per year.

b. Fugitive emissions control requirements specified at OAR 340-208-0210 are applicable to any material handling processes/equipment and apply to all fugitive dust emission sources.

c. Nuisance prevention requirements of OAR 340-208-0300, and large particle (i.e., PM > 250 micron in size) fall-out limitations of OAR 340-208-0450 are state-only enforceable requirements that apply to Owens-Brockway.

10. Emissions Unit specific applicable requirements

a. The visible emissions standard of OAR 340-208-0110 applies to EU4 glass melting furnaces and all baghouses and dust collectors (e.g., RMBH-2, HEST-A, etc.) located throughout the plant.

b. The 0.10 gr/scf grain loading limit of OAR 340-226-0210(2)(b) applies to GM1 and GM4 glass melting furnaces.

c. For Baghouses RMBH-2, RMBH-3, MRD-1, MBD-1 constructed before June 1, 1970, with no available compliance source test results, the following grain loading limits apply. [OAR 340-226-0210 (2)(a)(B)]

0.24 gr/dscf limit is applicable until Dec. 31, 2019; and
0.15 gr/dscf limit applies from Jan 1, 2020 onward.

d. For Baghouses RMBH-1, HEST-A constructed after June 1, 1970, with no available compliance source test results, the 0.14 gr/dscf grain loading limit is applicable pursuant to OAR 340-226-0210 (2)(b)(B).

e. For EU7 Boiler constructed before June 1, 1970, with no available compliance source test results, the following grain loading limits apply. [OAR 340-228-0210 (2)(a)(B)]

0.24 gr/dscf limit is applicable until Dec. 31, 2019; and
0.15 gr/dscf limit applies from Jan 1, 2020 onward.

f. The fuel oil sulfur content limits of OAR 340-228-0110 applies to any distillate fuel-oils used by Owens-Brockway. The EU7 boiler burns natural gas when it is operated but it is also capable of burning fuel oil.

11. 40 CFR Part 60, Subpart CC – Standard of Performance for Glass Manufacturing Plants

The glass melting furnace GM1 was installed in 1956 and it was modified during the year 1983. The GM1 furnace-area was enlarged from 566 square-feet to 786 square-feet and additional gas

firing ports were installed. The electric melting furnace GM4 was installed in 1970 and it was converted to gas-fired furnace during the year 1986. A glass melting furnace that commenced construction or modification after June 15, 1979 is subject to the NSPS requirements of 40 CFR, subpart CC – "Standards of Performance for Glass Manufacturing Plants."

a. Both GM1 and GM4 furnaces burn natural gas and utilize the electric-boost. Owens Brockway typically uses post-consumer cullet in excess of 50% of total material input. The GM1 and GM4 furnaces are considered glass melting furnace "with modified processes" subject to the PM emissions limit of 0.5 g/Kg specified at 40 CFR 60.293.(b)(1).

b. The GM1 and GM4 furnaces are required to install, calibrate, maintain, and operate Continuous Opacity Monitoring System (COMS) to measure the visible emissions discharged into the atmosphere. The GM1 furnace with two stacks has optical sensor in each stack.

12. Non-applicability of 40 CFR Part 61, Subpart N; "National Emission Standards for Inorganic Arsenic Emissions From Glass Manufacturing Plants" applies to a facility of any size existing prior to August 4, 1986 that uses commercial arsenic as a raw material. The limit for an uncontrolled source is 2.7 tons of arsenic emissions per year based on mass balance. Owens-Brockway does not use arsenic.

13. 40 CFR Part 63, Subpart SSSSSS; "National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources are applicable to Furnace-D that adds iron chromite to the batch when it produces green glasses. Iron chromite contains chromium. No other metal HAPs listed in subpart 6S are added to the glass batch.

The metals that are naturally occurring as trace constituents or contaminants of other substances are not considered to be raw materials as defined in §63.11459. Cullet and materials that are recovered from the process stream and recycled/reused into the glass formulation are not considered to be raw materials.

Emissions from furnace-D must comply with either 0.2 lbs of PM per ton of glass produced, or 0.02 lbs of metal HAP per ton of glass produced. 40 CFR Part 63.11452(b)(14)(ii) insinuates only the metal HAP added to the process (i.e., Cr) is subject to the 0.02 metal HAP (i.e., glass manufacturing metal HAPs) standard.

14. Emissions limits applicable to Insignificant Activities

As identified earlier in this Review Report, this facility has insignificant emissions units (IEUs) that include categorically insignificant activities and aggregate insignificant emissions, as defined in OAR 340-200-0020. For the most part, the standards that apply to IEUs are opacity (20% limit) and particulate matter (0.1 gr/dscf limit). DEQ does not consider it likely that IEUs could exceed an applicable emissions limit or standard because IEUs are generally equipment or activities that do not have any emission controls (e.g., small natural gas fired space heaters) and do not typically have visible emissions. Since there are no controls, no visible emissions, and the emissions are less than one ton per year, DEQ does not believe routine monitoring, recordkeeping, or reporting is necessary for assuring compliance with the standards.

PLANT SITE EMISSION LIMITS

15. Provided below is a summary of the baseline emissions rate, netting basis, and plant site emission limits.

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)
PM_{10}	95	132	95	132	109	--
$PM_{2.5}$	--	--	91	--	100	--
SO_2	145	313	145	313	184	--
CO	13	17	13	99	99	--
NO_x	343	711	343	711	382	--
VOC	12	12	12	39	39	--
Pb	0.1	0.1	0.1	0.5	0.5	--
GHG (CO_2e)	46,852	--	46,852	--	100,521	--

a. Baseline Emission Rate is the best estimate of actual pollutant emissions that occurred during the baseline period of 1978. Baseline emission rate for each criteria pollutant was calculated based on actual production data from 1978 and the emission factors derived from available source test data and EPA's AP42 emission factors. Emissions Detail Sheets at the end of this review report provide the 1978 production data and emission factors used to estimate the baseline PSEL.

Any 12 consecutive month period between year 2000 through 2010 can be used to establish the baseline period for greenhouse gas (GHG). Owens-Brockway has selected the calendar year 2010 for the GHG baseline period.

b. Netting Basis equals the baseline emission rate adjusted down with respect to any emission reductions required by rules or through voluntary measures, plus any emission increases approved through New Source Review. There have been no regulatory or voluntary reductions of PSEL and there have been no PSEL increases approved through NSR. The netting basis for all pollutants other than $PM_{2.5}$ are the same as their respective baseline emissions rate. Differences between previous and proposed netting basis for PM_{10}, CO, SO_2, and NO_x are largely due to recalculating the baseline emissions using updated emission factors obtained from multiple source tests conducted over the years.

c. Previous PSEL is the PSEL approved in the previous permit.

d. Proposed PSEL is the PSEL proposed for this permit. The decrease in PM_{10}, SO_2, and NO_x PSEL are due to corrections and they do not represent reduction in actual emissions. Emissions Detail Sheets attached to this review report provides the production data, source test results, and all other emission factors used to re-establish the baseline and current PSELs.

e. All PM and PM_{10} currently emitted at the Owens Brockway plant are considered PM_{10}.

f. PSEL for $PM_{2.5}$ is established for the first time in this permit renewal. Refer to emissions detail sheet for $PM_{2.5}/PM_{10}$ fractions used to establish the $PM_{2.5}$ netting basis and PSEL.

g. PSEL for CO, VOC, and Pb are set at their respective generic level in accordance with OAR 340-222-0040. The generic PSEL level for CO and VOC is equal to Significant Emission Rate (SER) for that pollutant minus 1 ton. The generic level for Pb equals its SER minus 0.1 ton at 0.5 tons/yr. The PSEL must be established for all regulated pollutants listed in Table 2 of OAR 340-200-0020 that are emitted above the de-minimis levels defined in 340-200-0020. The de minimis level for Pb is only 0.1 tons/yr, and this permit renewal moves the lead emissions grouped under aggregate insignificant emissions in the previous permit to the PSEL section of the permit.

h. Greenhouse Gas (GHG) emissions are being added to the permit for the first time. Owens-Brockway has selected the calendar year 2010 as the GHG baseline period, and GHG emissions in 2010 were 46,852 tons of carbon dioxide equivalent (CO_2e). The proposed GHG PSEL is 100,521 tons/yr of CO_2e based on the same natural gas usage and glass production rate that were used to set the PSEL for other air pollutants.

i. Potential to Emit & Unassigned emissions: Owens-Brockway has the potential and capacity to utilize all of the netting basis available. The SO_2 and NO_x PSEL limits the production before Owens-Brockway can reach their true maximum production potential. (See Emissions Detail Page A7) Unassigned emissions for all criteria pollutants are zero.

16. Significant Emission Rate

The PSEL increase over the netting basis is less than the Significant Emission Rate (SER) for all pollutants as defined in OAR 340-200-0020. Therefore, no further air quality analysis is required in this permit renewal.

Pollutant	SER	Requested increase Over previous netting basis	Increase due to utilizing capacity that existed in the baseline period	Increase due to physical changes or changes in the method of operation
PM	25	0	0	0
PM_{10}	15	0	0	0
$PM_{2.5}$	10	--	9	0
CO	100	0	0	0
NO_x	40	0	0	0
SO_2	40	0	0	0
VOC	40	0	0	0
Pb	0.6	0	0	0
GHG	75,000	--	53,669	0

17. Aggregate Insignificant Emissions

The aggregate insignificant activities identified by Owens-Brockway include the following:

Aggregate Insignificant Activities	Pollutant	Estimate (tons/yr)
Grit blasting (part of mold cleaning) process	PM_{10}	6.4×10^{-3}
Nickel compounds (spray welding)		3.4×10^{-4}
Unpaved road emissions		0.7
		Total $PM_{10} < 1$
Solid film lubricant (spraying and cleaning)	VOC	3.9×10^{-2}
Image bottle coding (methyl ethyl ketone)		0.32
Safety-Kleen parts cleaners (parts cleaning)		0.3
Used oil storage		1×10^{-5}
		Total VOC < 1
Nickel compounds (spray welding)	HAP	3.25×10^{-4}
Solid film lubricant (spraying and cleaning)		1.1×10^{-2}
		Total HAP < 0.1

This permit does not intend to limit "aggregate insignificant activities" to only those currently identified in the permit application. No groups of activities are identified in this permit just for the purpose of identifying insignificant activities, which tend to be a moving target. Instead, the permit aggregate limits reflect the rule limits, as defined in OAR 340-028-0110 (5). The rules allow the permittee to add more categorical insignificant activities to their existing list, and similarly, the permittee is free to add more insignificant activities to their existing aggregate source list, provided the aggregate emissions of any individual (regulated) pollutant do not exceed the permit (rule) aggregate insignificant limit.

HAZARDOUS AIR POLLUTANTS

18. The Owens-Brockway facility is a minor source of hazardous air pollutants (HAPs) because the estimated emissions of any individual HAP is less than the 10 tons/yr threshold and total aggregate HAPs emission is less than the 25 tons/yr threshold.

CAS Number	Chemical Name	Estimate (tons/yr)
7440382	Arsenic Compounds	1.01×10^{-2}
71432	Benzene	1.51×10^{-3}
7440417	Beryllium Compounds	2.48×10^{-5}
7440439	Cadmium Compounds	1.38×10^{-2}
25321226	Dichlorobenzenes (mixed isomers)	8.69×10^{-4}
7440484	Cobalt Compounds	6.09×10^{-5}
100414	Ethylbenzene	1.84×10^{-3}
50000	Formaldehyde	5.43×10^{-2}
110543	Hexane	1.30
7647010	Hydrochloric Acid	2.43×10^{-2}
7439921	Lead Compounds	2.85×10^{-1}
7439965	Manganese Compounds	1.05×10^{-2}
7439976	Mercury Compounds	3.80×10^{-4}
7440020	Nickel Compounds	4.60×10^{-3}
91203	Naphthalene	4.42×10^{-4}
1330207	Xylenes (isomers)	8.76×10^{-3}
7782492	Selenium Compounds	3.06×10^{-2}
0	Chromium Compounds	1.71×10^{-1}
0	Hex-Chromium	1.97×10^{-4}
	Total Aggregate:	**Less than 2 ton/year**

A review of the AQ source files indicates Owens-Brockway removed “Wrap Shrink Labeler” from their process in 1998 that eliminated 9.78 tons/yr of hydrochloric acid, 0.65 tons/yr of methylene chloride, and 0.4 tons/yr of methyl ethyl ketone (MEK). On December 13, 2005, the Environmental Protection Agency (EPA) issued a final rule that removes MEK from the list of hazardous air pollutants regulated under the Clean Air Act.

19. Toxic and Flammable Substance Usage for Accidental Release Prevention

Facilities holding more than a threshold quantity of a regulated substance in a process are required to comply with EPA's Risk Management Program regulations in 40 CFR Part 68. The regulations require permittees to implement a Risk Management Program and to submit a Risk Management Plan to EPA. The following toxic and flammable substances are currently used, stored, manufactured, or handled at the facility in the approximate quantities listed below:

CAS No.	Chemical Name	ESTIMATED ANNUAL USAGE (lbs/yr)					
		< 1,001	1,001 - 10,000	10,001- 20,000	20,001- 50,000	> 50,000	Over Threshold Quantity?
7664417	Ammonia		X				
7440382	Arsenic	X					
71432	Benzene	X					
7440439	Cadmium	X					
7440473	Chromium	X					
7440484	Cobalt	X					
7440508	Copper	X					
50000	Formaldehyde	X					
7439921	Lead	X					
7439965	Manganese	X					
74828	Methane (NG)					X	N/A
7440020	Nickel		X				
74986	Propane					X	N/A
7782492	Selenium	X					
108883	Toluene	X					
71556	Trichloroethane	X					
790106	Trichloroethylene	X					
108054	Vinyl acetate	X					
1330207	Xylene	X					

Oregon DEQ is responsible for requiring the Title V permitted source to verify if the source has registered and submitted a Risk Management Plan (RMP) to EPA. The permittee must submit a risk management plan to EPA by the date specified in 40 CFR 68.10. The trigger date is the date by which a regulated substance is first present above a threshold quantity in a process. According to 40 CFR 68.126, flammable substances (e.g., methane, propane) used as fuel are excluded from all provisions of part 68. Owens-Brockway has not triggered the RMP requirements of part 68 to date.

20. Stratospheric Ozone Depleting Substances

The permittee does not use any of the listed ozone depleting substances, and the permittee is exempt from the federal requirements of 40 CFR Part 82, Subpart E; The Labeling of Products Using Ozone-depleting Products. Service on motor (fleet) vehicles is not performed at the plant site, and the permittee does not handle any refrigerants in the motor vehicle air conditioner (MVAC). Therefore the permit omits the applicable requirements specified in 40 CFR Part 82, Subpart B; Servicing of Motor Vehicle Air Conditioners.

21. Oregon Air Toxics Inventory

Owens Brockway reported the following air toxics emissions data:

CAS Number	Chemical Name	Estimate (tons/yr)
7440382	Arsenic Compounds	1.01×10^{-2}
71432	Benzene	1.51×10^{-3}
7440417	Beryllium Compounds	2.48×10^{-5}
7440439	Cadmium Compounds	1.38×10^{-2}
25321226	Dichlorobenzenes (mixed isomers)	8.69×10^{-4}
7440484	Cobalt Compounds	6.09×10^{-5}
100414	Ethylbenzene	1.84×10^{-3}
50000	Formaldehyde	5.43×10^{-2}
110543	Hexane	1.30
7647010	Hydrochloric Acid	2.43×10^{-2}
7439921	Lead Compounds	2.85×10^{-1}
7439965	Manganese Compounds	1.05×10^{-2}
7439976	Mercury Compounds	3.80×10^{-4}
7440020	Nickel Compounds	4.60×10^{-3}
83329	Acenaphthene	1.30×10^{-6}
120127	Anthracene	1.74×10^{-6}
56553	Benz[a]anthracene	1.30×10^{-6}
50328	Benzo[a]pyrene	8.69×10^{-7}
205992	Benzo[b]fluoranthene	1.30×10^{-6}
191242	Benzo[g,h,i]perylene	8.69×10^{-7}
207089	Benzo[k]fluoranthene	1.30×10^{-6}

CAS Number	Chemical Name	Estimate (tons/yr)
71363	n-butyl alcohol	2.72×10^{-2}
218019	Chrysene	1.30×10^{-6}
53703	Dibenz[a,h]anthracene	8.69×10^{-7}
206440	Fluoranthene	2.17×10^{-6}
86737	Fluorene	2.03×10^{-6}
193395	Indeno[1,2,3-cd]pyrene	1.30×10^{-6}
78933	Methyl Ethyl Ketone	3.16×10^{-1}
91576	2-Methyl naphthalene	1.74×10^{-5}
91203	Naphthalene	4.42×10^{-4}
85018	Phenanthrene	1.23×10^{-5}
129000	Pyrene	3.62×10^{-6}
1310732	Sodium Hydroxide	8.57×10^{-4}
1330207	Xylenes (isomers)	8.76×10^{-3}
56495	3-Methylcholanthrene	1.30×10^{-6}
7782492	Selenium Compounds	3.06×10^{-2}
0	Chromium Compounds	1.71×10^{-1}
0	Hex-Chromium	1.97×10^{-4}
7634869	Crystalline Silica (Respirable)	3.29×10^{-6}
7664417	**Ammonia**	**4.03**
	Total Aggregate:	**6.33**

MONITORING REQUIREMENTS

22. Section 70.6(a)(3)(i) requires that all monitoring and analysis procedures or test methods required under applicable requirements be contained in Title V permits. In addition, where the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit. The requirement to include in a permit testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor with respect to all emissions units and applicable requirement situations. It does not require extensive testing or monitoring to assure compliance with the applicable requirements for emissions units that do not have significant potential to violate emission limitations or other requirements under normal

operating conditions. Where compliance with the underlying applicable requirement for an insignificant emission unit is not threatened by a lack of a regular program of monitoring and where periodic testing or monitoring is not otherwise required by the applicable requirement, then in this instance, the status quo (i.e., no monitoring) will meet section 70.6(a)(3)(i).

23. Facility-wide monitoring associated with the facility-wide applicable requirements include investigation of public complaints and taking corrective action as need arises. Owens-Brockway staff also need to conduct periodic visual inspections to ensure there are no excessive fugitive emissions from materials handling operations. The Owens-Brockway facility currently uses natural gas only and the fuel monitoring for sulfur contents are not triggered until they start to use fuel oils.

24. Visible emissions monitoring for Glass Melting Furnaces GM1 & GM4: This section contains continuous opacity monitoring requirements to ensure the visible emissions from glass melting furnaces meet the opacity standards set forth in the permit.

25. Visible emissions monitoring related to opacity standards and grain loading limit applicable to other emissions units (e.g., boiler, baghouse) are established in a progressive manner. Periodic monitoring requirements start with frequent (i.e., weekly) periodic opacity readings, and accumulated results are used to establish the next level (frequency) of monitoring for each individual source of emissions. Visible emission monitoring is waved for miscellaneous fuel burning equipment that burn natural gas only.

26. Monitoring for Insignificant Activities: As identified earlier in this Review Report, this facility has insignificant emissions units (IEUs) that include categorically insignificant activities and aggregate insignificant emissions - as defined in OAR 340-200-0020. For the most part, the standards that apply to IEUs are for opacity (20% limit) and particulate matter (0.1 gr/dscf limit). The Department does not consider it likely that IEUs could exceed an applicable emissions limit or standard because IEUs are generally equipment or activities that do not have any emission controls (e.g., small natural gas fired space heaters) and do not typically have visible emissions. Since there are no controls, no visible emissions, and the emissions are less than one ton per year, the Department does not believe that monitoring, recordkeeping, or reporting is necessary for assuring compliance with the standards.

TEST METHODS AND PROCEDURES

27. This section, titled "Test Methods and Procedures", is provided so that the permittee and Department will know what test methods should be used to measure pollutant emissions in the event that testing is conducted for any reason. This section does not by itself require the permittee to conduct any more testing than those included in the permit. Although the permit may not require testing because other routine monitoring is used to determine compliance, the Department and EPA always have the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, the permittee may elect to voluntary conduct testing to confirm the compliance status. In either case, the methods to be used for testing in the event that testing is conducted are included in the permit. This is true for SIP as well as NSPS emission limits and standards.

RECORDKEEPING REQUIREMENTS

28. Recordkeeping requirements in this permit are drafted pursuant to OAR 340-028-2130(3)(b). The records of all monitoring specified in the Oregon Title-V Operating Permit 26-1876 must be kept at the plant site for at least 5 years, unless different timeframe is specified for particular emissions data. All records necessary to determine compliance with any permit condition shall be made available to the DEQ/EPA inspectors upon request.

REPORTING REQUIREMENTS

29. Reporting requirements in this permit are drafted pursuant to OAR 340-028-2130(3)(c). The permittee is required to submit semi-annual compliance certification to the Department twice per year. The annual report consists of the second semi-annual compliance certification, in addition to products throughput and other relevant emissions data needed to determine compliance with the annual PSEL.

GENERAL BACKGROUND INFORMATION

30. Other permits issued or required by the Department of Environmental Quality for this source include the following:

    - NPDES Permit 1200-COLS for stormwater discharge; and
    - Registered small quantity (i.e., 220 – 1,200 lbs/month) HW Generator, #ORD009026618

31. A Land Use Compatibility Statement signed by the City of Portland on March 14, 1995 granted approval of the facility operations.

32. The source is located in a maintenance area for ozone and Carbon Monoxide (CO). The area is in attainment for all other criteria pollutants. The facility is a minor (< 100 tons/yr) source of Volatile Organic Compounds (ozone precursor) and CO.

COMPLIANCE HISTORY

33. Table below summarizes DEQ enforcement activities associated with permittee's air quality permit in chronological order:

Date	Case Number	Enforcement Activity
11/20/2009	PE-POR-AQ-2009-0087	Pre-enforcement Notice for opacity violations
04/05/2010	AQ/V-NWR-09-201	DEQ Order & Civil Penalty $6,000
06/09/2011	WL-POR-AQ-2011-0047	Warning Letter for Monitoring deficiency
02/23/2010	PE-POR-AQ-2010-0008	Pre-enforcement Notice for opacity violations
06/15/2011	PE-POR-AQ-2011-0048	Pre-enforcement Notice for opacity violations
08/31/2011	AQ/V-NWR-11-092	DEQ Order & Civil Penalty $10,000 Required Corrective Action Plan
10/28/2011	Owens-Brockway submitted a feasibility study on PM-Control Equipment (e.g., baghouse)	

Date	Case Number	Enforcement Activity
05/14/2012	Mutual Agreement & Final Order	DEQ accepted OB's Supplemental Environmental Project (SEP) and reduced CPA to $2,000.
04/05/2012	PE-POR-AQ-2012-0032	Pre-enforcement Notice for opacity violations
08/24/2012	PE-POR-AQ-2012-0094	Pre-enforcement Notice for opacity violations
10/01/2012	AQ/V-NWR-12-046	DEQ Order & Civil Penalty $26,400
05/08/2013	PE-POR-AQ-2013-0058	Pre-enforcement Notice for opacity violations
07/22/2013	AQ/V-NWR-13-068	The Civil Penalty of $26,400 in AQ/V-NWR-12-046 Reduced to $25,200 and combined with additional Penalty of $8,000 for a total amount of $33,200.
05/16/2014	WL-AQ-2014-0053	Warning Letter for an excess opacity event in 2013
07/15/2016	2016-WLOTC-1748	Warning Letter with Opportunity to Correct issued for work practice deficiencies. Corrective actions taken and issues resolved.
03/17/2017	2017-WL-2307	Warning Letter for an excess opacity event in 2016.
04/22/2019	AQ/V-NWR-2019-016	Notice of Civil Penalty Assessment and Order Owens-Brockway has not completely satisfied the source testing protocols specified in the order and the case remains open as of 10/21/2019.

SUMMARY/PUBLIC NOTICE

34. Pursuant to OAR 340-218-0210, the proposed permit followed a Category-III permit review process described in OAR 340 division 209. Following the public notice period, the public hearing was held on September 19, 2018. The Department responses to the public comments are attached. The changes incorporated in the proposed permit since the public hearing are summarized below.

    The proposed permit is now being sent to EPA for their review and approval. The public will have 105 days (45 day EPA review period plus 60 days) from the date the proposed permit is sent to EPA to appeal the permit with EPA. The permit will be issued following EPA's review.

Condition No.	Description of Change
13, 21, 35	Source testing frequency specified in Conditions 13, 21, and 35 have been amended to ensure source testing will be repeated every five years regardless of the permit status. Condition 35 also includes testing for grain loading rate in addition to verifying the production based PM emission factor.
24, 28	In accordance with OAR 340-226-0210 and 340-228-0210 (amended 5/16/2019), the grain loading limit (e.g., 0.15, 0.20, or 0.24 gr/scf) applicable to specific equipment (e.g., baghouse) has been identified in lieu of paraphrasing the rules for clarity.
30.e	Maintenance requirements for baghouses are expanded to include additional maintenance (e.g., change bags) in the event the pressure reading falls outside the pre-determined range or annually, whichever comes first.

ATTACHMENT

EMISSIONS DETAIL SHEETS A1 – A12
DEQ response to public comments

261876R2